June 27, 2019

BY ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: NOTICE OF EX PARTE
WT Docket No. 10-208: *Universal Service Reform - Mobility Fund*
WC Docket No. 10-90: *Connect America Fund*
WC Docket No. 11-10: *Modernizing the FCC Form 477 Data Program*

Dear Ms. Dortch:

On June 25, 2019, Tim Donovan, Courtney Neville, and I of Competitive Carriers Association ("CCA")[1] met with Erin Boone, Ben Freeman, Garnet Hanly, Jennifer Salhus, and C. Sean Spivey of the Federal Communications Commission's ("FCC" or "Commission") Wireless Telecommunications Bureau, to discuss the above-referenced proceedings. Kirk Burgee of the FCC's Wireline Competition Bureau, and Ying Ke and Suzanne Mendez with the FCC's Office of Economics and Analytics, also attended the meeting.

CCA continues to applaud the FCC's efforts to identify areas where broadband coverage is available and unavailable through an accurate and efficient data collection, and to ensure that this coverage data reflects consumers' experiences.[2] Despite this laudable goal, CCA has long stated that the FCC's current data, based on Form 477 submissions, does not reflect on-the-ground coverage.[3] The significant limitations of the current data are further confirmed by the FCC's most recent mobile data collection to determine a map of areas presumptively eligible for Mobility Fund II ("MF II") support, which failed to reliably identify which areas are sufficiently served.[4] Put simply, the parameters that the FCC adopted in the MF II proceeding were inconsistent with real-world network utilization and were too general to allow carriers to provide actionable coverage probabilities.[5] Hence, even if the submitted data proves to be compliant with

[1] CCA is nation's the leading association for competitive wireless providers and stakeholders across the United States. Its membership includes nearly 100 competitive wireless providers ranging from small, rural carriers to regional and national providers serving millions of customers. CCA also represents associate members including vendors and suppliers that provide products and services throughout the mobile communications supply chain.

[2] *See* Statement of Chairman Pai on Circulation of Order to Extend Mobility Fund Phase II Challenge Process (rel. Aug. 3, 2018), *available at* https://docs.fcc.gov/public/attachments/DOC-353253A1.pdf.

[3] *See, e.g.*, Comments of Competitive Carriers Association, WC Docket No. 11-10 (filed Oct. 10, 2017) ("CCA Form 477 NPRM Comments"); Comments of Competitive Carriers Association, WT Docket No. 10-208, WC Docket No. 10-90 (filed Apr. 26, 2017) ("CCA MF II Comments"); Reply Comments of Competitive Carriers Association, WT Docket No. 10-208, WC Docket No. 10-90 (filed May 11, 2017) ("CCA MF II Reply Comments"); Letter from Rebecca Murphy Thompson, EVP & GC, CCA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 (filed Feb. 7, 2018).

[4] Public Notice, *Updated Version of Map of Areas Presumptively Eligible for Mobility Fund Phase II Now Available*, WT Docket No. 10-208 (rel. Aug. 1, 2018) ("FCC MF II Map").

[5] *See, e.g.*, Letter from Rebecca Murphy Thompson, EVP & GC, CCA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 (filed July 27, 2017) ("CCA MF II Parameters Letter"). *See also* letter from Alan Buzacott, Executive

the FCC's current requirements, the data are neither consistent nor precise enough to reliably measure which geographic areas have adequate mobile broadband service.

Learning from this experience, the FCC should reevaluate its mobile Form 477 data submission parameters to produce coverage maps that "more accurately reflect consumer experience."[6] Form 477 data is used for multiple purposes, but all would benefit from an accurate representation of actual coverage. Specifically, CCA suggests that the FCC apply a specific set of factors to standardize data collections, better understand carriers' broadband coverage, and produce more reliable maps.[7] A detailed Radio Frequency Link Budget submission should include the following factors:

- Signal Strength. Standardizing the Reference Signal Received Power ("RSRP") will base measurements on the same real-world measurements that wireless networks use to determine cell selection and handover, among other network functions. Current Form 477 filings show that these approaches to measuring signal strength can be subjective and can vary by equipment vendor and network design. Weaker RSRP means that the coverage area is larger but that the actual coverage is less reliable at the cell edge. All carriers should therefore report a standard RSRP level, controlled for individual carriers' varied spectrum portfolios and use.[8] In rural areas where sites are isolated, a 5 dB increase in the Maximum Allowed Path Loss for a single site leads to a doubling of coverage area. For 4G LTE specifically, a -85 dBm RSRP level per 5 MHz channel would reflect excellent coverage, while a signal strength of no lower than -105 dBm per 5 MHz channel would reflect the type of reliable signal strength that consumers expect.[9] In contrast, a -120 dBm level per 5 MHz channel could register that a consumers' device is connected to LTE service, but in reality, provide for a poor connection that fails to support many applications or functions.
- Cell Edge Probability. Cell edge probability determines the likelihood that the minimum speed is possible at the furthest point from the base station. From data collected during the MF II process, it is evident that an 80 percent cell edge probability significantly overstates coverage capabilities. CCA has consistently encouraged the FCC to revisit this parameter and adopt a cell edge probability of 90 percent or higher.[10] Networks in rural areas are designed to ensure that consumers are afforded ubiquitous coverage at broadband speeds right through to the cell edge. In addition, signal drop can be dramatic in rural areas outside the cell edge. This is remarkably different from an urban network, which may have a more gradual signal drop because carriers are able to use small cells or other

Director – Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 (filed July 27, 2018).

[6] *See, e.g.,* Public Notice, *Procedures for the Mobility Fund Phase II Challenge Process*, WT Docket No. 10-208 ¶¶ 19, 36 (rel. Feb. 27, 2018) ("Challenge Process Procedures PN"); Universal Service Reform – Mobility Fund, *Order on Reconsideration and Second Report and Order*, WT Docket No. 10-208, (rel. Aug. 4, 2017) ("Second Report and Order").

[7] *See supra,* note 3. *See also*, Testimony of Tim Donovan, SVP of Legislative Affairs, CCA, Subcommittee on Commerce, Science, and Technology, "Broadband Mapping: Challenges and Solutions" (116th Cong.) (Apr. 10, 2019).

[8] *See* CCA MF II Parameters Letter at 2.

[9] *See* CCA MF II Comments at 15 (*citing*, letter from David A. LaFuria, Counsel to United States Cellular Corporation, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90, WT Docket No. 10-208 (filed Feb. 17, 2017), at 2).

[10] CCA MF II Parameters Letter at 2. It is worth noting that commercial operators generally design their networks to operate at a minimum 90 percent cell edge probability.

technologies to pick-up or improve a signal, and have greater numbers of cell base stations to pick up the customer as they leave the cell edge.[11] At a rural site, for example, an 80 percent cell edge probability extends the cell radius by about 27 percent and increases the "covered" area by about 60 percent. This additional 60 percent could represent hundreds of square kilometers of additional "coverage" per site that is mostly insufficient to support reliable service. CCA accordingly continues to emphasize that a map defined by 90 percent cell edge probability and 50 percent cell loading factor will prevent against an overstatement of network coverage and help to ensure certain rural communities are provided adequate mobile broadband service.[12]

- Cell Loading. Cell loading determines the extent to which available resources from a given base station may be used by consumers while providing minimum coverage speeds. In the MF II proceeding, the FCC directed reporting providers to apply a 30 percent load factor, which failed to accurately reflect network use in rural areas. In rural areas, coverage is typically provided by low-band spectrum, which has more favorable propagation characteristics for coverage over large areas, but has limited capacity compared to higher frequencies. As a result, these sites are often prone to being heavily loaded.[13] For example, one CCA carrier member reports that its rural sites utilizing low-band spectrum routinely experience average cell loading in excess of 50 percent in the evening hours. The FCC should revisit this parameter and adopt a cell loading factor of at least 50 percent on the downlink, or higher, to reflect the reality that consumers in rural areas are more likely to rely on their mobile connection for their primary or only Internet connection.[14]
- Clutter Factors. Clutter factors include environmental features such as structures, trees, vegetation, topography, or other objects that affect propagation of a signal from a base station. With varied geographic features across the country, clutter factors should match local environments and should be appropriately reported across coverage areas.[15] Clutter factor submissions also should include clear indications of the precise loss values assigned to the clutter and feeder type.

A variety of factors inform a robust Link Budget; however, the modified standards referenced above will help to standardize coverage data, reduce the need to expend additional resources to correct current data collection flaws, and provide an efficient foundation upon which future policy decisions may be based.

Competitive carriers have invested significant capital to provide services in rural and remote areas, and will continue to deploy new services for consumers in all corners of the United States. It is therefore critically important that the FCC foster policies that produce a coverage map that accurately depicts where advanced communications services are available. CCA looks forward to continued work with the FCC and policymakers to achieve this shared goal.

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[11] *Id*.

[12] *Id*.

[13] As Verizon has previously highlighted, network loading in at least one rural region in Oklahoma often exceeds 30 percent. *See* Letter from Alan Buzacott, Executive Director – Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 at 4 (filed July 27, 2018).

[14] *See* CCA MF II Parameters Letter at 2.

[15] *See id*. at 3; CCA MF II Comments at 11.

This *ex parte* notification is being filed electronically with your office pursuant to Section 1.1206 of the Commission's Rules. Please do not hesitate to contact me with any questions or concerns.

Respectfully submitted,

/s/ Alexi Maltas

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